REMARKS

The allowance of claim 39 and the indication of claim 21 containing allowable subject matter are noted. Claim 44 has been added to provide applicant with the protection to which he is deemed entitled.

Independent claims 40 and 42, on which the remaining rejected claims depend, have been amended to indicate the water flow channel comprises two liquid trajectories and that these two trajectories are both isolated from outside the vessel. Thus, the claims cover vessels having a single hull comprising a hollow part defining the water channel or multiple hulls comprising a fairing which connects the bottom of the hulls. The basis for this modification is on page 2, [0034] and [0038] of the application as filed.

A feature of the claimed structure is such that if the turbine is actuated and the movement of the vessel is stopped, for example, due to deflector orientation, the flow of liquid under the holding tank is maintained and the Venturi effect is maintained. The Venturi effect only occurs if a current exists below the outlet of the holding tank. As a result, the second trajectory which by-passes the tank is between a fairing and the bottom of the tank.

The Venturi effect causes liquid and liquid waste to enter the tank in the first trajectory. As a result, there is no need for a structure to reduce the quantity of water entering the tank. To the contrary, water flow into the tank is important for good collection performance. The Venturi effect stimulates the water flow into the tank regardless of the forward speed of the vessel.

Additionally, the drawings indicate the Venturi effect promotes liquid flow into the tank in the first trajectory and the escape of water from the tank via the outlet. This is the principle of the Venturi effect. The Venturi effect causes a continuous flow into the tank and contributes, with the turbine, to maintain the collection of waste even if the vessel is stopped.

Furthermore, there is a first part of the channel in which the two trajectories are coincident. This is enables liquid and liquid waste to flow through the same inlet to enter into the channel. If the two trajectories were separated at the inlet of the channel, some

liquid waste could flow directly through the turbine. This is indicated from the location of the first part of the channel being "between the water inlet of the channel and the tank". The basis for this statement in the application as filed is at page 3, [0059] "…first and second trajectories are coincident between the inlet of the water and an outlet of solid waste retainer… the outlet is located between the first grill and the funnel of the tank".

As a result of the structure of the vessel and the action of the turbine, water enters the vessel in the first part of the channel. The flow is then divided into two flows. One flow enters the holding tank and leaves the holding tank through an outlet of the holding tank. The other flow by-passes the holding tank. The Venturi effect causes water to enter and leave the holding tank by a continuous process. The two water flows meet each other at the outlet of the holding tank and the combined flow is finally through the turbine. The two flows are continuous and there is a large quantity of water flowing into the holding tank in the first trajectory. The Venturi effect is maintained by the constant flow below the tank even at zero forward speed of the vessel.

In consequence, the upper layer containing liquid waste and the water below the upper layer are attracted into the vessel by the turbine itself. The collection of waste is not dependent on the speed, or the displacement, of the vessel. At zero propelling speed and all other practical propelling speeds, the quantity of water of the surface layer containing liquid waste is only dependent on the flow of water generated by the turbine on the channel.

The foregoing amendments distinguish claims 40 and 42 over the art previously relied on in the office action and the rejections of all the previously submitted claims, except allowable claims 21 and 39. In particular, the foregoing amendments overcome the (1) anticipation rejections under 35 USC 102(b) of claims 20, 26-29, 32, 37, 38, 40, and 42 based on Petchal (US Patent 3,966,615), Derzhavets (US Patent 3,823,828) or Rymal (US Patent 4,851,133), (2) the rejection of claims 20, 22, 26-30, 32, 37, 38 and 40-43 based on Petchel in view of Chastan-Bagnis (US Patent 4,921,605), (3) the rejection of claims 17 and 19 under 35 USC 103(a) based on the references applied against claim 35 in view of Winbladh, and (4) the rejection of claims 22, 25, 41 and 43 under 35 USC 103(a) based on Petchal, as applied against claim 40, in view of

Debellian. The rejection of claims 20, 22, 26-30, 32, 37, 38 and 40-43 based on Petchal in view of Chastan-Bagnis appears to be improperly stated in the office action as being an anticipation rejection under 35 USC 102(b) because an anticipation rejection under 35 USC 102(b) cannot rely on more than one reference; in other words, it cannot be based on Petchal in view of Chastan-Bagnis. Applicant assumes the rejection based on Petchal in view of Chastan-Bagnis was intended to be a rejection under 35 USC 103(a).

In Derzhavets, the water channel of the vessel is divided into two trajectories at the inlet of the vessel. There are two inlets, one for liquid without liquid waste and one for liquid with liquid waste. (There is no "first part of the channel"). Liquid with impurities at the surface layer of the water enters directly into the collecting receptacle. As described at column 2, lines 47-54 : "*The arrangement pursuant to the present invention, divides the water flow entering the skimmer craft into two streams with one of them being a surface layer of water which contains floating impurities, entering the collecting receptacle, and with the other being an underlying layer of water entering the duct for delivery to the water jet*"; and in column 1, lines 53-62 "…*wherein the water flow delivered to the water jet is separated from water containing floating impurities entering the collecting receptacle*". The turbine causes water flow in duct 5, but not in the collection receptacle. The upper layer containing impurities is attracted into the vessel by the lower water flow and not by the turbine itself as indicated at column 1, line 68, to column 2, line 1: by "…*utilizing the water flow delivered to the water jet to draw water off the collecting receptacle*..".

Moreover, the structure 4 present at the inlet of the vessel is like a waterfall which "*ensures a difference in the level of water contained in the collecting receptacle and that of the surrounding water, which is needed for the inflow to the collecting receptacle of the surface layer of surrounding water together with floating impurities*" (column 1, lines 63-68); also see column 2, line 66 which states "…*a minimum amount of water*…". Liquid with impurities at the surface layer of the water enters directly into the collecting receptacle with a limited quantity of water. It is one aim of the reference to reduce the quantity of water flowing into the tank. Water flowing into the tank is not an important characteristic for good performance of the collected material. The limited quantity of

water entering the collecting receptacle can escape only by overflow from the collecting receptacle and is dependent on the height of upper edge 12 of the receptacle. As a consequence, water does not continuously leave the collecting receptacle.

As a result, the collected liquid containing waste depends on the speed, or the displacement, of the vessel and is subject to variations depending on the speed or displacement of the vessel. At zero propelling speed, the inlet of the vessel is immobile and the surface layer of water containing impurities is only drawn in by the lower water flow. When the vessel is being propelled, the inlet of the vessel moves with the same speed as the lower water flow. The displacement of the vessel causes the upper water layer to enter the collection receptacle so that the quantity of the surface layer of water containing impurities that enters the collection receptacle depends on the speed of the vessel. Furthermore, because there are two liquid inlets, some impurities can enter the duct and do not flow into the collection receptacle.

Derzhavets et al. discloses a vessel for collecting liquid waste comprising a channel that is isolated from the surrounding water and that comprises two liquid trajectories: a first trajectory into the collection receptacle and a second trajectory by-passing the collection trajectory. The two trajectories are not coincident in a first part of the channel because they do not have a common inlet. The turbine only promotes a flow in the second trajectory and not in the collection receptacle. As a result, there is a relationship between the speed of the vessel and the collection of liquid waste.

Based on the foregoing, independent claims 40 and 42 are not anticipated by or made obvious by Derzhavets et al.

In Petchal, the water channel of the vessel comprises a tank formed by plates 7, 8 and 44, vent plate 19, spill gate 26 and flow splitter 22. There is no duct under the tank as can be seen on Fig. 3 (reference numeral 44 on Fig. 3 refers to plate 44 in Fig. 1). Liquid passing under plate 7 is not contained in an isolated duct. The sole water channel described in this reference is formed by the tank itself. This water channel has only one trajectory for liquid. Applicant is unable to understand why the examiner appears to believe Petchul et al. is particularly relevant. This is because Petchal's channel has only one trajectory and the reference does not disclose a turbine for

creating a flow in the channel. At zero propelling speed, liquid cannot escape from the tank because there is no current under the tank. In such a case, no liquid waste can be collected in the tank when the boat is not moving forward. The collection of material is clearly dependent on the speed of the vessel.

The Chastan-Bagnis vessel has a channel in which water can flow between the inlet of the channel and a turbine. A decanting chamber is located over the surface of the water. The upper layer of the flow is supplied to the tank by a skimming action and clear water can escape from the tank by a duct. There is no Venturi effect. Escape of clear water is regulated by a source of reduced pressure. Based on the foregoing, amended claims 40 and 42 are not anticipated by Petchal or made obvious by the combination of Petchal and Chastan-Bagnis

In Rymal, two water flow channels can be considered to form three trajectories. The first trajectory is created at inlet 31 of the vessel and directs water in a first channel 26 towards outlet 32. Inlet 54 allows water and oil to enter the vessel by way of channel 56. Clear water flows towards outlet 32 via a second trajectory. Liquid waste passes over the top of gate 62 into the holding tank by way of a third trajectory. Moreover, there is no Venturi effect. Another difference is that the vessel of the reference is not able to collect waste when it is not moving forward. Thus, Rymal does not anticipate or make obvious the subject matter of amended claims 40 or 42.

The claimed structure enables the collection of liquid waste to be independent of the speed of the vessel, so liquid waste is collected even at zero propelling speed. This result is attained because of the combination of (1) the turbine that causes water and liquid waste to flow together in a first part of the channel and (2) the Venturi effect. The combination promotes the (1) flow of water including liquid waste into the holding tank and (2) escape of clear water from the holding tank. As a result, the flow of water into the holding tank in the first trajectory is not dependent on speed or displacement of the vessel and is maintained by the turbine even at zero vessel propelling speed.

Starting from Derzhavets et al. and faced with the objective technical problem, one of ordinary skill in the art would not be inclined to read Petchel et al. to find solutions since the collection of liquid waste in this reference also depends on the speed

of the vessel.

Moreover, even if the collection receptacle described in Derzhavets et al. were formed to promote a Venturi effect, the quantity of water escaping from the collection receptacle would be more important than the quantity of water entering the collection receptacle and some impurities could also escape. Furthermore, because the quantity of water entering the collection receptacle is limited in this reference, the ability of the turbine to attract the upper layer containing impurities would be reduced.

Based on the foregoing, independent claims 40 and 42 are not anticipated by or made obvious by the references relied on in the previous office action. Because claims 40 and 42 are thereby patentable over the art previously relied on to reject them, the remaining rejected claims, all of which depend on either claim 40 or claim 42, are allowable. The secondary references relied on to reject features of claims 17, 19, 22, 25, 41 and 43 do not cure the deficiencies in the primary references or Chastan-Bagnis.

In view of the foregoing amendments and remarks, allowance is in order.

To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account 07-1337 and please credit any excess fees to such deposit account.

Respectfully submitted,

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